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Case No.: 58633US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	MARTIN, STEVEN J.		
Application No.:	10/607717	Group Art Unit:	1762
Filed:	June 27, 2003	Examiner:	Markham, Wesley D.
Title:	REMOVAL AND REPLACEMENT OF ANTISOILING COATINGS		

DECLARATION UNDER 37 C.F.R. § 1.132 OF DR. MARK J. PELLERITE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR § 1.8(a)]

I hereby certify that this correspondence is being:

☒ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) 872-9306.

FEB 17 2005 — Lydia M Cahill
Date — Signed by: Lydia Cahill

Dear Sir:

I, Mark J. Pellerite, hereby declare that:

1. I received a B.S. in Chemistry from Indiana University in 1977 and a Ph.D. in Physical Chemistry from Stanford University in 1981.
2. From 1981 to the present, I have been employed by 3M Company in Saint Paul, MN. My current title is Lead Research Specialist.
3. My entire career has been spent as a research chemist working in the area of organofluorine chemistry and coatings. I have done extensive research in the area of organic film formation and characterization. I have developed expertise in surface characterization methods, contact angle measurements, surface tension measurements, and surfactants.
4. I am a co-inventor of U.S. Patent Application Serial No. 10/607717 (the "Application").
5. I have read the Final Rejection dated November 17, 2004 for the Application.
6. Exhibit 1 shows an atomic force microscopy (AFM) image of ordinary float glass (available from Cardinal Glass, Minneapolis, MN) such as the type of material that would be used to fabricate a liquid crystal display glass panel. This material is believed to be similar to that

used in U.S. Patent Application Publication 2004/0043142 by Birch et al. With the exception of some small spots that are believed to be residues remaining from the glass cleaning process, the surface of the glass substrate was smooth and featureless. In contrast, Exhibit 2 shows an AFM image of an antireflective coating on a plastic ophthalmic lens (Gentex GLC, obtained from TwinCity Optical, Minneapolis, MN) bearing no antisoiling coating. The surface of the antireflective coating was rough, porous, and particulate. Thus, the surface of the glass substrate was different from the surface of an antireflective coating on an ophthalmic lens.

7. An antireflective coating on an optical article such as an ophthalmic lens is likely to respond differently than a glass substrate to various environmental conditions. For example, an antireflective coating on an ophthalmic lens responded differently than a glass substrate to dilute hydrofluoric acid solutions. A 10 second dip of an ophthalmic lens having an antireflective coating into a 1 weight percent hydrofluoric acid solution followed by water rinsing and drying caused a color change in the antireflective coating from green to purple. This color change was attributed to a small decrease in the thickness of the top silica layer of the antireflective stack. This decreased thickness of the antireflective coating altered the optical properties of the ophthalmic lens. In contrast, a 10 second dip of the glass substrate into the same hydrofluoric acid solution followed by water rinsing and drying caused no discernible change. The removal of some of the outermost surface did not alter the optical characteristics of the glass substrate.
8. Because the surface of an antireflective coating on an optical article and the surface of a glass substrate are different, it would not be possible to conclude that a treatment method that is suitable for a glass substrate would be suitable for a antireflective coating.
9. Without experimentation, one of skill in the art would not have known whether a plasma treatment method known to be suitable for a glass substrate would be suitable for an antireflective coating of an optical article.

10. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true. Further, all these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 119 if the United States Code and that such willful false statements may jeopardize the validity of the Application and any patent issuing thereon.

Further Declarant saith not.

2/14/05
Date

Mark J. Pellerite
Mark J. Pellerite

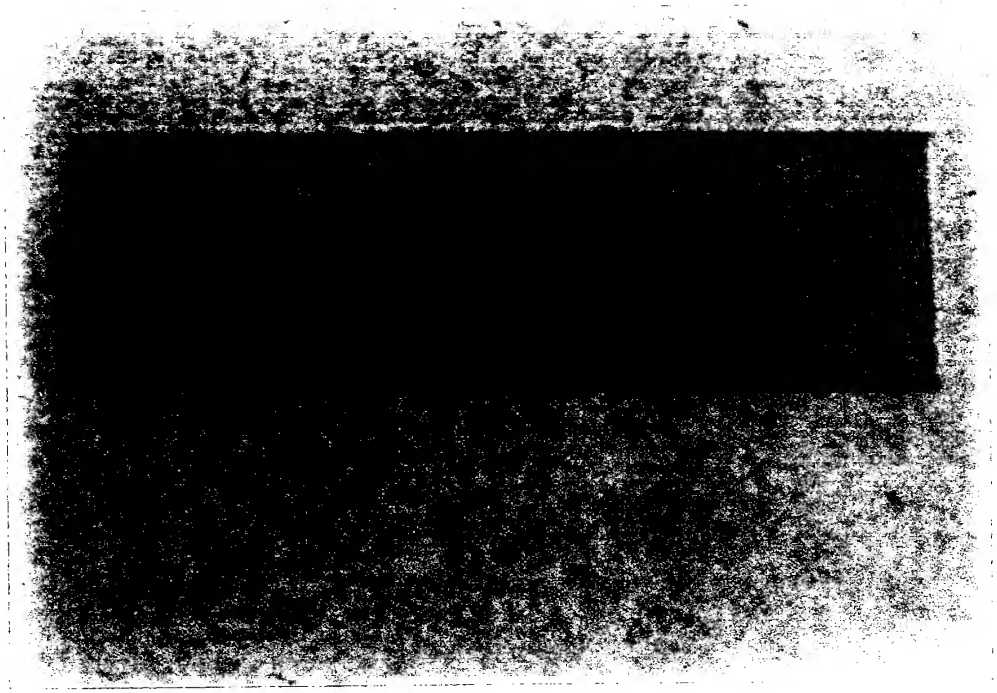

Exhibit A

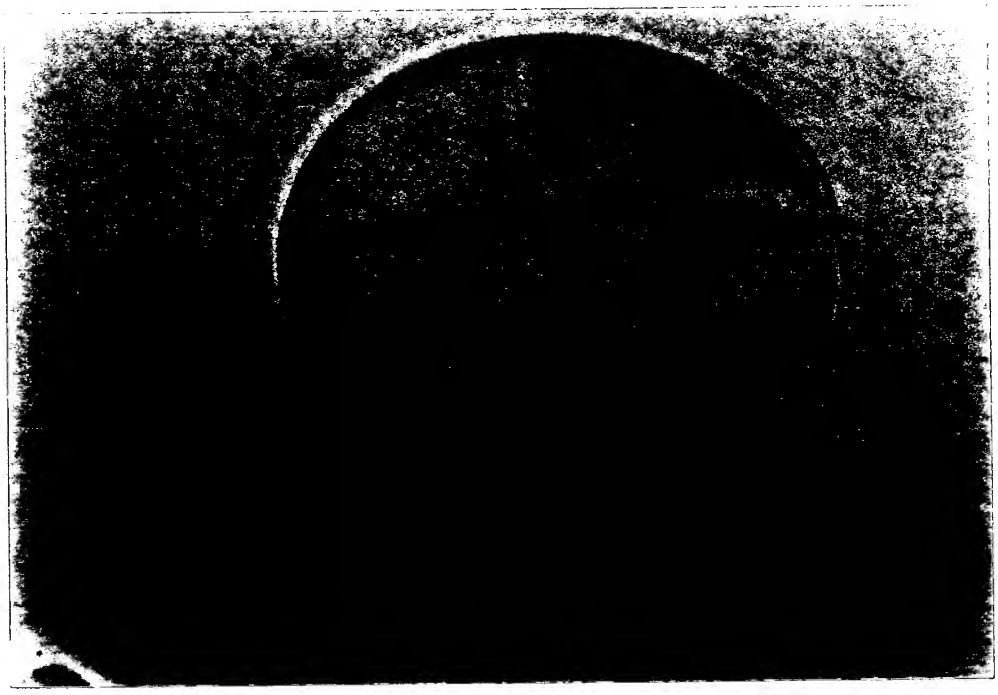

Exhibit B

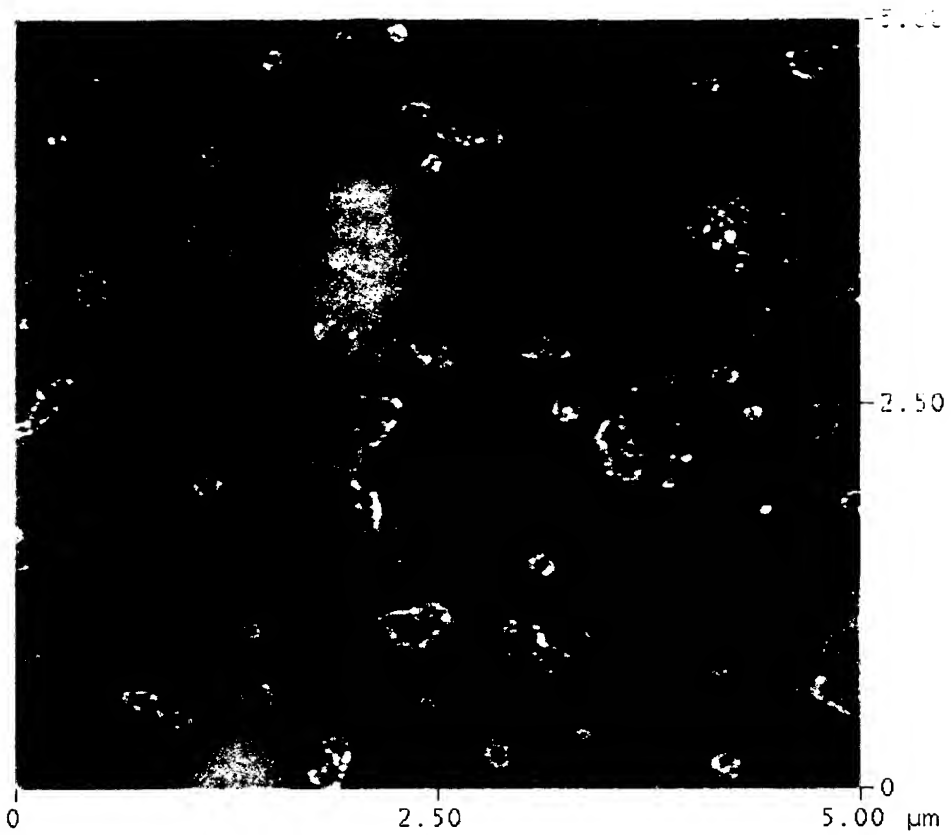

Exhibit 1

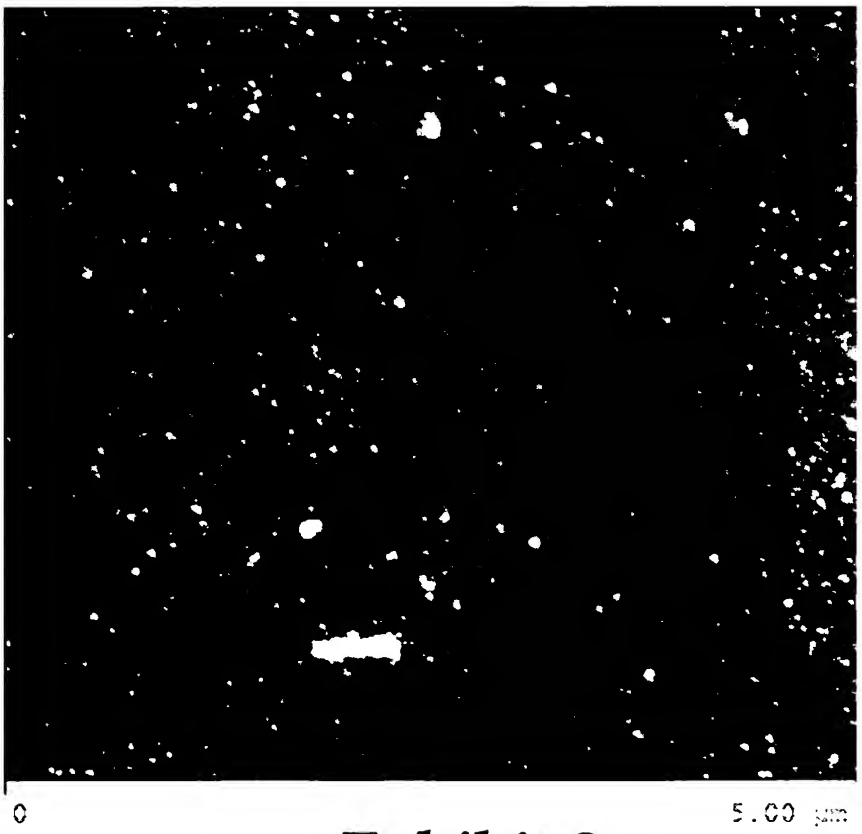

Exhibit 2